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The Reposition of Retro-displace-
ment of the Gravid Uterus
by Posture and Atmospheric
Pressure.

BY

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THE REPOSITION OF
RETRO-DISPLACEMENT OF THE GRAVID UTERUS

BY POSTURE AND ATMOSPHERIC PRESSURE.

BY DR. PAUL F. MUNDÉ.

MRS. C. S., twenty-eight years of age, mother of two children—the first premature at seven months, one and a half years ago, the last at some ten months ago—came to me January 3d last, complaining of a sensation of weight and drooping in the pelvis, hips, and back, which at times increased to severe, almost unbearable pain, especially after prolonged walking or standing. This condition had lasted about a week, and was becoming more distressing every day. Her bowels were very much constipated, moving only by means of cathartics, and each movement aggravated the pelvic and sacral pain; the functions of the bladder were as yet unimpaired, with the exception of a desire for frequent micturition accompanied by scalding and some tenesmus. Her last menstruation had taken place about the middle of October, eleven weeks previously, and she thought herself pregnant. A vaginal examination revealed the uterus in a state of acute retroflexion, the enlarged body and fundus occupying the cavity of the sacrum, and firmly compressing the rectum and the cervix, situated under the symphysis pubis. Below the fundus was the enlarged, exquisitely sensitive left ovary. The size of the uterus, and the soft, doughy feel of the body, left no doubt on my mind of the existence of a pregnancy of about ten weeks; and the tenderness of the organ on pressure clearly showed the necessity for speedy interference and reposition of the dislocation. Although the symptoms of actual incarceration were neither present nor imminent, that condition generally not arising until towards the end of the fourth month, and although the existence of a retroflexion fortunately prevented the compression of the urethra by the cervix uteri, and the consequent partial or total retention of



urine, which would doubtless have been present had the case been one of retroversion—still two previous cases of miscarriage during the tenth and twelfth weeks, in which the reposition of the retroverted uterus and a lever pessary after the commencement of metrorrhagia proved unavailing, had shown me the danger of abortion, even at that early period, unless the displacement were soon reduced. I therefore lost no time in placing the patient in the knee-elbow position, and introduced two fingers of my right hand into the posterior cul-de-sac of the vagina—intending to try this, to the patient, less disagreeable and painful method of reposition, before proceeding to the more effective manipulation per rectum. Finding, however, that the fundus did not budge, I passed the same two fingers into the rectum, and endeavored for about five minutes to dislodge the body of the uterus, and push it above the brim of the pelvis, but without success. The complaints of the patient, and the fact that her bowels had not moved for several days, to which fact I attributed in a measure the difficult reduction, induced me to desist from my efforts for that day, and to send her home with directions to thoroughly evacuate the bowels by laxatives and enemata, and to return with an empty bladder on the following day. She did so, and having found the uterus in the same position, I at once again placed her in the position *à la vache*, and renewed my efforts per rectum to push the fundus out of the sacral concavity and above the promontory. After using as much force as I dared for about ten minutes, and causing the patient so much suffering as to require all the influence I had over her to permit me to continue my manipulations, I found that I had not succeeded in elevating the fundus uteri one line from the floor of the pelvis, and that the cervix still retained its original position above the pubic arch. Whatever slight dislodgment was effected by strong upward pressure, the hand at the same time pushing up the perineum, was at once annulled when the pressure ceased, the fundus instantaneously rebounding to its place in the sacral excavation.

Having, in a number of cases of retroflexion or version of the gravid uterus, succeeded, without difficulty, in replacing the organ in the manner indicated, I thought that there must be some special reason for my want of success in this case—perhaps adhesions, which were possible, since the patient could not date the displacement to any sudden accident; and it might therefore have existed for some time before the present impregnation took place. I determined, however, to try first, whether, by drawing the cervix away from the pubis and towards the floor of the pelvis, I could not dislodge the fundus and reduce the dislocation by simultaneous digital pressure per

rectum. This I had already tried with the finger, but without avail. The patient still being in the knee-elbow position, I introduced Sims' speculum into the vagina, and pulled up the perineum sharply, intending to seize the cervix with the double tenaculum, when I suddenly noticed that the vagina was distended with air like a balloon, in the middle of which appeared the cervix. On looking for the body of the uterus, I found, to my surprise, that it had disappeared, that the sacral excavation was empty, and that the obstinate retroflexion of the gravid organ had been unwittingly and painlessly reduced. The patient immediately expressed her sudden and entire relief from the previous distressing symptoms, and I hastened to secure the uterus by introducing a proper Albert Smith pessary, which the patient has since worn with perfect satisfaction and comfort. [It was removed at the beginning of the fifth month.]

The explanation of this phenomenon is perfectly simple and obvious: The position of the patient produced a slipping of the moveable abdominal viscera away from the pelvis, and a suspension of the intra-abdominal pressure, or *vis-à-tergo*, its place being indeed supplied by a greater or lesser amount of suction or traction away from the pelvic organs, a certain *vis-a-fronte*, so to speak. The forcible elevation of the perineum opened the introitus vaginæ, and gave entrance to a volume of air, the pressure of which had already been pushing up the perineum, slightly drawn inwards by the downward gravitation of the abdominal viscera, and the pressure of which, when admitted, instantaneously distended the vaginal pouch, and replaced the uterus—a mechanism identical with that on which the action of Sims' speculum is founded. Thinking the matter over, it occurred to me that it was a case of acute (sudden) retroflexion of the non-impregnated uterus which afforded Sims the occasion for discovering his invaluable speculum. The unexpected reposition of the retroflexed uterus by the distension of the vagina with air, which had rushed into the canal under the volar surface of his two fingers, while he was endeavoring, in the knee-elbow position, to lift up the fundus, first gave him, as we all know, the idea of the duck-bill speculum. But I did not remember seeing this method of reposition of the retro-displaced uterus, gravid or unimpregnated, recommended in any of the works on obstetrics or diseases of women with which I am familiar. Could it be possible that, among the great benefits which this lucky accident has conferred on humanity, this smaller but still estimable benefit had been overlooked? It seemed scarcely probable. However, on looking over all the modern works on obstetrics and gynecology

at my disposal, such as Scanzoni, Schroeder, Byford, Cazeaux, Leishman, Thomas, Barnes, Hewitt, I found that, while all recommended the usual manipulations for the reduction of retroflexions and retroversions of the unimpregnated and gravid uterus, as by fingers in the rectum or vagina, or by air or water bags in these passages (Favrot); or by pressing the fundus up with a drumstick or ivory-headed cane in the rectum (Byford); or by drawing down the cervix with one hand, while the other pushes up the fundus, the patient generally being in the knee-elbow or semi-prone position; and, while all these authors agree that the reposition of the uterus with the sound is always attended with more or less danger and pain, still not one even as much as hints at the employment of atmospheric pressure for this purpose. Even Sims himself, whose attention might naturally have been supposed to be directed to this manner of replacing retro-deviations, from the case mentioned above, entirely ignores the minor lesson taught him by that case, and recommends the reposition of the retro-displaced uterus by the fingers and three sponge-holders, or by the uterine elevator.

During a discussion, likewise, on a paper by Dr. Gervis, on "Retroversion of the Gravid Uterus," in the London Obstetrical Society, at its meetings in November and December, 1874 (*Obst. Jour. Gr. Br. & Irel.*, Dec., '74, and Jan., '75), which is probably the latest published general discussion on the subject, Drs. Barnes, Wynn Williams, Aveling, Galabin, Braxton Hicks, Palfrey, Godson, Edis, Hayes, and others, related their experience in forty-eight cases, eight of which were fatal, and the treatment employed and advocated by them; but not one word of air-pressure as a repositor do I find among all the various methods recommended. It is evident that none of the gentlemen named had ever heard of it in that connection.

On January 6th, that is, two days after the reposition of the displacement, as above described, the latest number of the Berlin *Beiträge zur Geburtshülfe und Gynäkologie* (Vol. IV., No. 1), came into my hands; and, looking it over, I noticed an article, entitled "A Hitherto unrecognized Obstacle to the Reposition of the Retroflexed Gravid Uterus," by Dr. Solger of Berlin, read before the Berlin Obstetrical Society, May 11, 1875, in which the author, after enumerating the various well-known obstacles to the reposition of the retro-displaced impregnated organ, such as distension of the bladder and rectum, projection of the sacral promontory and impaction of the fundus in the sacral excavation, and retro-uterine adhesions, mentions a new, hitherto not recognized impediment, viz., the normal intra-abdominal pressure, and relates his experience in a case of difficult reposition, in which he made exactly the same

observation as now reported by me, although in a slightly different manner, identical with the original observation of Dr. Sims. In one case of irreducible retroflexion of the gravid uterus, at the end of the fourth month, in which Solger vainly endeavored to replace the organ by the fingers and the colpeurynter, in the knee-elbow position, he seized the cervix with a double tenaculum, to draw it away from the pubis, and, while examining with the finger, to see whether the tenaculum was in the right place, the cervix and tenaculum suddenly made a spontaneous evolution, and the cervix was found high up in the sacral excavation, from which the fundus had disappeared. After some deliberation, Solger finally concluded that this voluntary reduction was owing to the influence of the negative intra-abdominal pressure in the knee-elbow position, and was reminded of a case of severe incarceration, in which violent emesis, in the prone and knee-elbow positions, brought about the spontaneous replacement of the uterus. Still, he was not completely satisfied with this explanation, and it was not till about a month previous, that a new case afforded him the opportunity for ascertaining the true rationale of this phenomenon. After repeated unsuccessful attempts to replace the retroflexed uterus of $3\frac{1}{2}$ months, in the knee-elbow position, with the fingers in the rectum and vagina, Solger again introduced his fingers into the vagina, for the purpose of drawing the cervix away from the symphysis, when he heard and felt the air rush into the vagina between his fingers, which at once found themselves in a large balloon-like space, bounded above and behind by the sacrum. The retroflexion was completely replaced! This, to him (as to me) unexpected and surprising result, Solger attributes to the overcoming of the intra-abdominal pressure (equal to at least 100 pounds) by the atmospheric pressure (which, taking the antero-posterior diameter of the superior pelvic strait only as high as 8 ctm., or 3", at 15 lb. to the square inch, amounts to more than 100 pounds), aided by a negative intra-abdominal pressure, not exceeding, according to Schatz, 10 ctm. hydraulic pressure, and the weight of the uterus itself. Solger recommends to replace all retroflexions of the gravid uterus by placing the woman in one of the positions which annul abdominal pressure (the other obstacles resulting from distension of the bladder and rectum having been removed), and then lifting up the lower two-thirds of the posterior vaginal wall with one or two fingers, so as to permit the free ingress of air to the vagina. Only in case of this manipulation failing to be successful, is the employment of manual or instrumental pressure justifiable.

Several of the members of the Berlin Obstetrical Society,

such as Drs. Louis Mayer, Körte, and Von Haselberg, expressed their doubts as to whether the mere pressure of air in the vagina could replace a retroflexed gravid uterus with greater facility than could be done with the fingers; and the last-named gentleman referred to several cases observed by Martin, Fuhrmann and himself (*Monatschr. für Geb. u. Frauenkrankh.*, 34, p. 173), in which air entered into the vagina in the dorsal decubitus, in which position the idea of traction on the vagina by negative intra-abdominal pressure must be excluded. He was therefore inclined to lay less stress on the influence of intra-abdominal pressure as an obstacle to reposition, than of the projecting promontory.

These doubts as to the power of air-pressure in the vagina certainly confirm the impression I had gathered touching the ignorance or want of appreciation of the profession of this simple, but nevertheless powerful instrumentality.

As regards Dr. Von Hasselberg's objection, it is refuted by Dr. Adolph Rasch, in a paper on "Air in the Vagina" (*Trans. Lond. Obstet. Soc.*, vol. xii, 1871), the conclusions of which read as follows:

- "1. No air enters the vagina of a female placed on her back.
- "2. In the prone position, the abdominal walls fall outward, and cause a diminished pressure in that cavity. If the vaginal orifice be open, air will enter and so compress the expanded intestinal gases to their previous volume.
- "3. The force with which it enters and consequently the quantity which distends the vagina, varies with the resistance offered by the abdominal walls to the gravitation and the degree of mobility of the viscera.
- "4. In replacing the female on her back, the abdominal contents fall inwards and expel the air again from the vagina.
- "5. In the position on the back we have an efficient means of keeping the air out of the vagina and uterus, and so preventing the deleterious consequences ascribed to its action on the vaginal and uterine contents."

Dr. Rasch also denies the power of sucking up the air by spasmodic contraction ascribed to the vagina by Hadley, Hewitt, Routh, Braxton Hicks, and others, and shows that the abdominal cavity also possesses no suction power. The incorrect observations of the gentlemen mentioned must be attributed to a lack of appreciation of the time when the air entered the vagina, which certainly must have taken place at some previous time in some other position than on the back, and was not expelled until she occupied the latter position.

While looking, a few days ago, over the numerous periodicals accumulated in my library during the past year, for the

purpose of preparing my annual report on Gynecology, I came across another paper bearing on my subject, entitled "Position, Pneumatic Pressure, and Mechanical Appliance in Uterine Displacements," by Dr. Henry F. Campbell, of Augusta, Ga. (*Atlanta Med. and Surg. Jour.*, May, 1875), which I remembered receiving, but had laid aside unread for a future occasion. This paper may have met the eyes of some of the gentlemen present, and a detailed repetition of its contents is therefore unnecessary; still a brief review of the main features of Dr. Campbell's extensive experience on this topic may not prove uninteresting or tedious.

He says that although the *knee-and-breast* (not knee-elbow) posture has been known and practised in uterine displacement for many years, it is still but little appreciated; and only two modern works—Thomas's and Barnes's recommend it as a means for reducing uterine dislocations. Not one mentions "the indispensable condition of power and the real instrumentality and *sine qua non* in the process of replacement," the *pneumatic pressure*, without which the posture alone is almost useless. He recommends the employment of the knee-breast position and pneumatic pressure together, in all varieties of uterine displacement, not only to aid the diagnosis and replace the dislocated uterus, preparatory to introducing a pessary in the same position, when it can be gently laid on the posterior vaginal wall without forcibly pushing up the displaced organ (the only way in which a pessary should be applied), but chiefly for the purpose of enabling the patient to reduce the dislocation herself every evening before retiring to bed, and thus secure an unimpeded uterine circulation with unstretched uterine ligaments during the whole night, a process which, if regularly repeated for some time, will, he asserts, "go far in favoring a restoration to a permanently normal position of the organ." This self-replacement is rendered practicable by means of the "pneumatic self-repositor," a glass tube with slightly curved bulbous extremity, made of different sizes, which the patient introduces every night in the knee-breast posture, only for a moment, when "the air rushes in; the suction is broken, and immediately, whatever may be the displacement, unless there is adhesion or impaction, self-replacement is completely and instantly accomplished." Sims' speculum was originally used, but proved too expensive and inconvenient to the patient. Dr. Campbell also advises the postural and pneumatic-pressure treatment in the various forms of displacement of the gravid uterus, which "are not only incident to but are almost normal attendants of the earlier months of pregnancy; and is confident that many of the discomforts and dangers accompanying these

conditions will be alleviated or removed by "nightly self-replacement." *Rectal inflation* has also been employed by Dr. C., and is recommended as serviceable in some cases "to dislodge the fundus from the hollow of the sacrum, thereby making restitution by vaginal inflation and inverted gravity easier and more certain." A case confirming this conviction of Dr. Campbell's is reported by Dr. Aveling in the *Obst. Jour. of Grt. Br. & Irel.* for Jan. 1875, in his article on "The Influence of Posture on Women," of a lady afflicted with retroversion, who found her suffering alleviated whenever she knelt with bowed head at her confessional.

A very important, distressing, and peculiarly obstinate class of cases, in which postural treatment alone is of marked benefit (Rigby, *vide* Aveling l. c.) are those in which one or both of the normal or enlarged and congested ovaries have slipped down behind the uterus, and produce the most agonizing torture at almost every movement of the patient. Dr. Campbell entirely omits all mention of these displacements, although they are very common in connection with those of the uterus. I am confident that the knee-breast position, particularly if reinforced by atmospheric pressure, will prove very soothing and beneficial in these cases.

While Dr. Solger's observation differs from mine in that he did not recognize the advantage offered him by the employment of Sims' speculum for the admission of air to the vagina (and this is by no means a mere nominal advantage, as I have recently ascertained, while experimenting on a number of patients, for it seems almost essential to a complete distention of the vagina to lift up the perineum, which latter, I ought to state, should be lax and distensible, as in multiparæ, with a gaping vulva), it will be seen that Dr. Campbell has covered all the ground (with one exception) and infinitely more than I had expected to occupy when I first made the independent observation which forms the basis of this communication. I must say that, having since replaced a number of retroverted non-gravid uteri by the postural and atmospheric-pressure method, I am very much impressed with the truth and force of Dr. Campbell's statement; and, while the subject of "nightly self-replacement" may perhaps meet with some opposition on æsthetical and moral grounds, I do not hesitate to express my unqualified support of the principles of treatment advocated by Dr. Campbell, and my belief that its universal appreciation and adoption will be of great benefit to the suffering female sex. My object in preparing this short paper is to call attention to the value of *atmospheric pressure* conjointly with the old-established postural treatment in reduction of retro-displacements

of the gravid uterus, even of a severe degree, where the employment of an amount of force such as would be perfectly justifiable in case of adhesion of the unimpregnated womb, would surely be productive of metritis or abortion.

This particular class of cases is not referred to by Dr. Campbell; indeed he excepts displacements, where there is adhesion and *impaction*, as not amenable to the beneficial influence of posture and air-pressure. Solger's and my cases both prove that the latter condition in its commencing stages, may readily be relieved by this method. I need scarcely mention, therefore, that all the milder cases of this accident are, as a matter of course, controlled with correspondingly greater facility; and that I entirely concur with the advice given by Dr. Solger, that only after posture and atmospheric pressure (employed in the manner described by me—knee-breast position and elevation of perineum with Sims' speculum)—have failed to reduce the dislocation, are the usual infinitely more difficult and painful manipulations to be resorted to.

Dr. PEASLEE said that he thought the power of air to replace a displaced uterus was liable to be overrated. The air will replace the uterus only as far as the vagina reaches, and a retroversion will then be found reduced from one of the third to one of the second, perhaps from one of a second to a first degree; but the sound will still be felt to pass into the uterus, with its concavity turned slightly backward. He does not think that even a pessary will change a retroflexion into an antelexion; only the sound or reposer will do that.

Dr. CHAMBERLAIN made the following remarks on the subject:

Mr. PRESIDENT: I would like to ask Dr. Peaslee if, provided the vagina be sufficiently extensible, the pressure of an instrument in the commissure behind the uterine neck, applying, as it does, upon the lower portion of the fundal zone, must not carry the fundus, first, against the cavity of the sacrum, and, if further continued, upward along the curve of the sacrum, until it emerges from the true pelvis in a perpendicular to the plane of the brim. Now, this perpendicular is substantially the axis of the superior strait, and it is in that axis that the normal position of the uterus lies. That the pressure of which I speak will compel the uterus to assume this position I have several times verified upon the cadaver.

If Dr. Peaslee's statement be that the uterus cannot be positively antelexed, except by an instrument within its cavity, I may say that I think that, when sustained above the brim of the pelvis and prevented from retroverting, the combined influence of the round ligaments, the weight of the organ and the

pressure of the viscera will sometimes positively antevert it ; but, at any rate, I have not doubted that substantial restoration to its natural position can be attained by a pressure from below and without, and that the knee-and-breast position is a most valuable aid to restoration.

Dr. LEE asked Dr. Peaslee whether there is not danger from replacing an endometritic uterus with the sound ?

Dr. PEASLEE said that he had never had any trouble, unless pelvic adhesions were still or had recently been present. He thought the sound could generally be used without danger in such cases.
